

leaves, but the Marsh Valerian is less common and does not grow much above a few inches in height, while the Great Valerian attains several feet.

Here and there we see some round woolly leaves with pale yellow blossoms growing right in the water; this is the Marsh St. John's Wort (*Hypericum Elodes*), the only one of its kind, I think, which grows in such wet situations.

We wade on through the mud, though our feet are soaking wet; however, they must become still wetter, as we see something interesting sticking up out of the water. Desperate efforts are made to reach it, and it is worth the trouble, as it is the flower of the beautiful Buck-Bean (*Menyanthes Trifoliata*) which, however, is past its best. Its season for flowering is short, and the lowest flowers generally die off before the topmost ones are out.

You cannot mistake this plant, as the leaf is like a large clover leaf, divided into three parts, glaucous and shining.

Very interesting little plants are the Carexes, very many of whose homes are marsh bogs. A common one is the Tufted Carex, which you may recognise by the dark-brown or almost black glumes.

Then there is the Marsh Carex, whose female spikelets are quite black while in bud, those of the male being of a reddish sandy colour.

The Whitish Carex frequents the most marshy parts, but is not so common as some of its kind. A large one is the Bottle Carex, whose female spikelets are something in the shape of a bottle, hence its name.

Then there is another little flower which lends enchantment to the scene, the Bog Pimpernel, with its beautiful little pink flowers and trailing stems; here beside it we see the star-like blossoms of the Bog Asphodel, which has sword-shaped leaves in miniature.

Still we proceed; and what is that mass of white in the distance—surely it looks like the Water Ranunculus? We carefully make our way, though it is by no means an easy task, jumping from one precarious foothold to another, yet now we are close enough to see it is no flower but the silky fruit of the Cotton Grass (*Eriophorum Augustifolium*) waving in the breeze. (I have seen quantities of this growing in dense masses.)

The plover shrieks over our heads, uttering most weird cries, and sometimes comes within a few yards of us, trying to assure us that he is a dangerous enemy.

But we must look even more closely and perhaps we shall find a little flower known as the Lesser Skull-cap (*Scutellaria Minor*). This is something like the Greater Skull-cap, only pinkish in colour and smaller in size. When we once find it, we shall probably see it in great abundance, but it is not common.

There is yet another bog plant, which is a great favourite of mine, the Marsh Potentilla, with its handsome strawberry-like leaves and dull purplish flowers.

Other plants we may meet with (which I have not time to mention at any length) are,—the Red Rattle (*Pedicularis Palustris*), very like the Lousewort; the Grass of Parnassus, queen of bog flowers, but not found in every bog; Bog Myrtle, which in midsummer would only betray its existence by its shining olive-green leaves; the Dwarf Willow, which creeps along the ground and is not a tree at all. This would also have ceased flowering although we might be fortunate enough to find one blossom "left blooming alone."

S. SMYTH.

AVERAGE ATTAINMENTS.

WHILE considering a definite standard of attainments for a child of ten years of age it must be borne in mind that such a standard practically means nothing from an educational point of view, in the highest sense of the word. It is merely a useful guide to teachers in regard to certain school subjects and a help in defining work of which the range is so wide, that it is easily possible to go over the same ground several times while some paths are left untrodden. By ten years of age almost all the foundation of future work should be laid. By that time the child should hold in his hands, and should have a firm grasp upon the beginnings of those threads which are to lead him through straight and narrow ways to the gates of knowledge. It will be long before he finds the correlation of these threads, for that must be the result of his

own discovery, by the aid of those perceptions which will only grow wide with years. Find it, however, he will, without doubt, if given the right clue in the right way at an early age.

To give this clue, constitutes the aim and efforts of all modern teachers, and to this end they experiment with apparatus, handicrafts and the slow methods of induction, realising often, after months of patient toil, that their pupils, though interesting and interested, are, compared even with elementary school children, lamentably below the average. For the comfort and encouragement of these tillers of human soil, it may be suggested by the way, that a garden of beautiful colours, though without design, is more engaging to the eye than orderly devices of radishes and carrots. The cases are not exactly analagous, but there is a grain of truth to be found in the simile for a critical observer of human nature.

As a P.N.E.U. member and student, I am of course quite in sympathy with the fervent experimenting teacher, whose methods both training and reason indicate as the only possible ones. Nevertheless, personal experience and the discovery of serious gaps in my pupils elementary knowledge has taught me that to have a definite line of actual facts to work up to, though it may sound suspiciously like "cramming," is an assistance to the teacher, a spur to the children, and a general source of satisfaction to parents and the coming schoolmaster.

When one teaches a child how to walk one does not point out to him the horizon as a goal, but by slow degrees from table to chair, and chair to door, one leads him to the land of liberty. So encouraged by a sense of progress as he passes each milestone, he never despairs at what might otherwise appear a hopelessly distant goal. "Something accomplished, something done." This should be the reward of the pupil, who, unlike his teacher, is not capable of appreciating the fact that he may partly have learnt a principle though he has not mastered the application.

To make my meaning quite clear, let us take a subject like that of Arithmetic in "illustration."

One need hardly say in these days of much training that the first four rules ought to have been thoroughly taught before any long-figured sums are given. It is the rational and only method. Therefore it should be the most interesting, and the pupil, after half-an-hour's modern teaching, should feel

more satisfaction than we did, when with hard labour and often bitter tears we had mastered a long division sum that took up all the slate. But, as a matter of fact, he does not. The teacher has managed so cleverly that his brain is not tired, the lesson is over and he feels, if he thinks about it at all, that he has done nothing. Of course he has been answering questions all the time, but he is quite unaware of having conquered any difficulties, much less does he realize that his mind has been opened, if ever so little, in a mathematical direction.

To give him this sense of victory and completeness, suppose we were to let him always know *what* he is learning in words that he can understand. Suppose the subject is simple subtraction. Give the usual lesson, turning the figures round about to introduce additions, and see that he thoroughly understands, whether he thinks he does or not, then *always* supplement with sums growing a little longer each time, that he may see for himself, on paper, that he can now do what he could not do before.

If such a method had been strictly adhered to, I think by ten years of age the average child would know all the first four rules, simple and compound, and with such practice as the long sums entail he ought to be fairly correct. At one time it used to give qualms of conscience to find that, though one of my pupils could do a long sum correctly, he was actually counting the seven times table on his fingers. It seemed to me then a dire offence, and for some lessons I probably laboured diligently at numbers alone, splitting them up and putting them together again. Although that may have been very salutary, I think now that a judicious hint, while the actual sum was in progress, would have answered quite the same purpose, and, in any case, surely the child of average intellect soon "finds out" for himself.

To go on with the average attainments. Of course every child of ten must read well; that is, distinctly and clearly. I am quite at a loss what to say about spelling. It seems a gift of nature, and one is heartily sorry for the babes that are overlooked in this respect. The difficulty is met largely by teaching the alphabet phonetically from the beginning, but there still remains a formidable list of words that can only be attacked in the time-honoured method of the locust who took first one grain of wheat, then another and another *ad infinitum*.

Geography is a vast subject, and the table and chair method is needed here more than anywhere. By ten the children *should* understand maps, plans, and drawings to scale. It is surely not necessary that they should be able to make plans of towns and the surrounding country as the Germans do. It is not convenient in school life, and, besides, it leaves nothing to the imagination. They know, as a rule, simple physical facts; the names of the oceans and continents and their shapes, the meaning of terms, and, lastly, the principal facts of their own country. They have, as a rule, incidentally picked up some geographical knowledge from other lessons, but there is time for no more than this in the school curriculum. With regard to History, they are generally familiar with all the English History *Stories*, and they ought to know a few of the principal battles with the dates. The dates of the kings might be learnt between ten and twelve.

At the word Language—one is obliged to make a perceptible pause, so much controversy has of late years raged around it. It do not think, however, it is difficult to make a reasonable standard and yet keep friendly with all sides. At ten, the child might be able to speak and write very simple French sentences, and after that, supposing he grasps the rudiments of English Grammar, he might begin Latin. It yet, I think, remains to be proved whether that will prevent him from becoming a learned classical scholar.

F. R.

Some of the students have asked for collective evidence from students of what should be considered the average attainments of children we usually have to teach. Miss Rankin has introduced the subject in a very helpful and interesting way. Perhaps other students will send accounts of their experiences and opinions. By the way, do you all agree with Miss Rankin that Latin should come before the rudiments of English Grammar? One object in teaching Elementary Latin Grammar to children is to make use of inflections which they can see with their bodily eyes and so (to quote from a familiar source) "to help them to see what English Grammar would be at when it speaks of a change in case or mood, yet shows no change in the form of the word."

(ED.)

READING, WRITING, SPEAKING.

MUCH has been said lately in the *L'Umile Pianta* and at our Students' Meetings about the advisability of starting a Reading or Magazine Club. Few will deny that there is much truth in the cynical remark of the learned that the young people of to-day spend far too much time over books; how far such a truth may apply to our studies I shall not discuss. Let it suffice that our vocation as teachers does necessitate much book study outside our actual professional work; and that the greater number of the members of the Students' Association are agreed that it would be well to start some kind of a literary Society, the rules of which should be so lax that they would be most binding. This paradox does not need any explanation. We want to make the proposed society a conscience. Not the least of our duties is to stimulate the desire of Knowledge (Curiosity); our Students' Meetings and our Magazine exist because we recognize this duty. Again, we know that one of the most pleasant channels through which knowledge may be imparted is conversation, by possessing and knowing how to use discreetly what the Irishman would call "the gift of the gab." Therefore, as well as reading good books we must know how to speak well, we must know how to make our words represent our thoughts. We need not, in striving to do this last, forget the distinction, which as our "Mater" would have her bairns remember, exists between lecturing and teaching. And it is said that it was the opinion of Crassus that men were deceived by the saying, that we learn to speak by speaking; for most men in this way practise only their voice, and not even that according to any principle; they practise their strength also and acquire volubility of tongue, and they are pleased with their abundant flow of words. But the true saying is that by speaking badly, men very easily learn to speak badly. Speaking without preparation is useful, but it is better to think well on the matter first and then to speak with due preparation and more exactness. But the chief thing is to write much, and that is a kind of labour which